UNITED STATES DEPARTMENT OF AGRICULTURE
Farm Service Agency
700 W Capitol Avenue, Room 3416
Little Rock, Arkansas 72201

AR Notice CRP-22

For: County Offices

Implementing CP33, Habitat Buffer for Upland Birds

Approved by: State Executive Director

for

1 Overview

A Background

National Notice CRP-485 authorized States to approve offers for CP33, Wildlife Habitat for Upland Birds as soon as a State monitoring and evaluation plan was developed and approved by the State Technical Committee and the FSA State Committee. The State Plan sets out the elements and components that must be included in every CP33 plan. Development of the monitoring plan will allow FSA to understand and report on the trends in bird population changes attributable to the Wildlife Habitat for Upland Birds.

B Purpose

The purpose of this notice is to provide State policy and procedure for implementing Continuous CRP Practice CP33, Habitat Buffer for Upland Birds. This notice will supply county offices with a copy of the approved Monitoring and Evaluation Plan, Mid-Contract Management Activities, and approved mixes of native grasses, forbs, and legumes, as well as cost estimates for herbaceous plant seeds and for shrubs, and maintenance rates.

2 Monitoring and Evaluation Plan

A Arkansas Collaboration

The Arkansas Game and Fish Commission, NRCS, U.S. Fish and Wildlife Services and other organizations with interest in upland birds, including bobwhite quail, collaborated with FSA to develop an approved Monitoring Plan for Arkansas. This plan was approved by the State Technical Committee on November 1, 2004, and the FSA State Committee on November 9, 2004.

B County Office Action

County offices shall:

- review the Monitoring and Evaluation Plan provided in Exhibit 1 of this notice and provide a copy to producers interested in CP33
- immediately publicize that FSA is taking applications for enrolling eligible acres in CCRP Practice CP33.

3 Mid-Contract Management Activities and Other Program Policy

A Other Program Policy

Program policy for eligible land, size requirements, cost-shares, practice incentives, practice requirements, and maintenance can be found in Notice CRP-479. State policies supplementing these National policies are available in exhibits included in this notice.

B Maintenance Cost

A per acre maintenance rate of $5.00 was approved for Practice CP33 by the FSA STC on November 9, 2004. Notice CRP-479, paragraph 6C, refers to additional c/s for restoring a failed or destroyed practice. It does not prohibit the $5.00 per acre annual maintenance rate. This rate will be added to paragraph 124C in the next State Amendment to 2-CRP.

C. Management Activity

This practice shall have periodic management activities performed according to the conservation plan during the life of the CRP-1 as determined by COC. County offices should refer to Exhibit 2 of this notice for mid-contract management options to discuss with producer(s) interested in enrolling a CP33 practice in CRP.

At the time of plan development, NRCS or a TSP will include the producer's selected option for management activity. Cost-share is authorized for management activities. Information in Exhibit 2 of this notice will be included in the next State Amendment to 2-CRP.

D. Approved Grasses, Forbs, Legumes, Seeding Mixtures and Shrubs, Rates and Seeding Dates

County offices shall refer to Exhibit 3 of this notice for a listing of approved grasses, forbs, legumes, seeding mixtures, rates and seeding dates. Use this information in conjunction with National Notice CRP-479 until it is incorporated in an amendment to the handbook.

E. CP33 Job Sheet

County offices shall refer to Exhibit 4 of this notice for a CP33 job sheet until these items can be included in an State Amendment to 2-CRP.

4 State Office Monitoring of CP33 Allotted Acreage

A State Office Responsibility

The National Office has instructed states to monitor acreage allotments to ensure that each state does not exceed its allotted acres. Notice CRP-479, Exhibit 1, provides Arkansas with a total of 12,000 acres that can be enrolled under Practice CP33. In order to ensure that this acreage limit is not exceeded, county offices shall notify the State Office **PRIOR** to approval of an offer to enroll in CCRP Practice CP33.

B County Office Responsibility

Exhibit 5 of this notice provides the report format for requesting State Office approval to enroll acres in a CP33 practice.

State Office approval is required before COC can approve a CRP-1 for this practice. County offices shall include a copy of the CRP-1 for each offer when faxing their request for approval using the format listed in Exhibit 5.

County offices shall retain the STO approved Exhibit 5 in their CRP file.

MEMORANDUM OF AGREEMENT BETWEEN THE ARKANSAS GAME AND FISH COMMISSION AND THE FARM SERVICE AGENCY

This agreement made and entered into on November 8, 2004, between the Arkansas Game and Fish Commission (AGFC) and the Farm Service Agency (FSA), is effective from October 1, 2004, through September 30, 2014.

It is agreed as follows:

WHEREAS, a goal of both the AGFC and the FSA is to manage and improve the natural resources of the State of Arkansas; and

WHEREAS, quail and other grassland dependent bird species across Arkansas have suffered significant population declines due to habitat loss; and

WHEREAS, the United States Department of Agriculture, in order to provide critical early-successional wildlife habitat in croplands, has announced, within the Conservation Reserve Program (CRP), Notice CRP-479, the development of Conservation Practice (CP)-33, Habitat Buffers for Upland Birds; and

WHEREAS, Notice CRP-479 requires that each state develop and implement a monitoring plan to document quail and songbird response to CP-33.

NOW THEREFORE it is agreed as follows: The AGFC and/or its designee will implement the following monitoring plan in Arkansas as required in Notice CRP-479.

1) Spring Call Counts will be conducted from mid May to early June each year. Points on these routes will be 0.3 miles apart with listening intervals of two minutes each. The number of quail heard at each point will be used to calculate the number of quail heard per mile of route sampled. Statewide, two routes will be conducted per county and fifteen (15) routes will be conducted in areas containing significant amounts of CP33 practices. Data collected from farms containing CP33 will be compared to statewide data as well as data at the physiographic region level.

2) Fall Covey Counts will be conducted from mid October to early November each year. Fall Covey Counts will be conducted from one point on each of the fifteen (15) farms sampled during the spring call counts. Fall Covey Counts will be conducted from 30 minutes prior to sunrise until sunrise during the sampling period. The number of coveys heard from each point and the distance to each covey will be recorded. An attempt will be made to flush a minimum number of coveys in order to determine an average number of birds per covey. The total number of coveys heard along with the distance estimates will be used to calculate the number of quail per area sampled.

3) CP-33 Habitat Assessments will be performed at the locations of the fifteen Fall Covey Counts annually in order to track habitat changes in conjunction with quail response.

4) Songbird abundance/response will be monitored along the same 15 routes used for the Spring Call Counts for quail. Observers will spend 5 minutes at each of the 15 points along each route. During that 5-minute period, observers will record all species of birds detected (heard or seen) and estimate the distance to each bird. This data will be used to track species occurrence and determine relative abundance of the more common species.

5) Upon the development of a regional/national monitoring plan for CP-33, sample sizes and methodology may be adjusted accordingly so that data will be comparable across Bird Conservation Regions and States.

Farm Service Agency

Len E. Blaylock, Jr.
State Executive Director

Arkansas Game and Fish Commission

Scott Henderson
Director

Mid-Contract Management Activities
CRP Practice CP33, Habitat Buffers for Upland Birds – Vegetation Established by Planting

Management Activity	Timing	Frequency	Specifications	Cost-Share
One of the Following Three Management Options is Required: **Option 1: PRESCRIBED BURNING** (Preferred option for managing native grasses.)	October 1 - March 15	**One of the Following Two Frequency Options is Required:** **Option 1:** Treat all acres twice. *1st treatment* – treat ½ of all acres per year in each of years 4 and 5. *2nd treatment* – treat ½ of all acres per year in each of years 7 and 8. **Option 2:** Treat all acres twice. *1st treatment* – treat ⅓ of all acres per year in each of years 4, 5, and 6. *2nd treatment* – treat ⅓ of all acres per year in each of years 7, 8, and 9.	The same acres may not be burned more than once in 3 years. An approved prescribed burning plan is required. Prescribed burning must follow NRCS specifications. Establish firebreaks of appropriate width/location prior to burning. Protect planted shrubs from fire.	$16 per acre

Mid-Contract Management Activities
CRP Practice CP33, Habitat Buffers for Upland Birds – Vegetation Established by Planting

Management Activity	Timing	Frequency	Specifications	Cost-Share
Option 2: LIGHT DISKING	September 1 - March 31 (September 1 - November 1 for optimum quail benefits)	**One of the Following Two Frequency Options is Required:** **Option 1:** Treat all acres twice. *1st treatment* – treat ½ of all acres per year in each of years 4 and 5. *2nd treatment* – treat ½ of all acres per year in each of years 7 and 8. **Option 2:** Treat all acres twice. *1st treatment* – treat ⅓ of all acres per year in each of years 4, 5, and 6. *2nd treatment* – treat ⅓ of all acres per year in each of years 7, 8, and 9.	The same acres may not be disked more than once in 3 years. Disk as many passes as needed to achieve a residual cover of 30-40%. Mowing may be necessary to facilitate disking. Disk no closer than 2 feet from planted shrubs. Disk on contour when possible. **Buffer <60 Ft Average Maximum Width** If disking ½ of all acres in a given year, disk in blocks 30-50 feet wide and alternate with undisked blocks of same width. If disking ⅓ of all acres in a given year, disk in blocks 30-50 feet wide and alternate with undisked blocks twice as wide. **Buffer ≥60 Ft Average Maximum Width** If disking ½ of all acres in a given year, disk in strips 30-50 feet wide and alternate with undisked strips of same width. If disking ⅓ of all acres in a given year, disk in strips 30-50 feet wide and alternate with undisked strips twice as wide.	$11 per acre, regardless of the number of disk passes needed for one treatment $11 per acre for mowing, if necessary

Mid-Contract Management Activities
CRP Practice CP33, Habitat Buffers for Upland Birds – Vegetation Established by Planting

Management Activity	Timing	Frequency	Specifications	Cost-Share
Option 3: LIGHT DISKING WITH LEGUME INTERSEEDING	September 1 - March 31 (September 1 - November 1 for optimum quail benefits)	**One of the Following Two Frequency Options is Required:** **Option 1:** Treat all acres twice. *1st treatment* – treat ½ of all acres per year in each of years 4 and 5. *2nd treatment* – treat ½ of all acres per year in each of years 7 and 8. **Option 2:** Treat all acres twice. *1st treatment* – treat ⅓ of all acres per year in each of years 4, 5, and 6. *2nd treatment* – treat ⅓ of all acres per year in each of years 7, 8, and 9.	The same specifications for disking apply as for the light disking management activity. In addition, interseed March 1 to April 15 with Kobe or Korean lespedeza at a rate of 15-20 pounds per acre drilled or 20-25 pounds per acre broadcast.	$11 per acre, regardless of the number of disk passes needed for one treatment $11 per acre for mowing, if necessary See C/S table for legumes

Mid-Contract Management Activities
CRP Practice CP33, Habitat Buffers for Upland Birds – Vegetation Established by Natural Succession

Management Activity	Timing	Frequency	Specifications	Cost-Share
One of the Following Three Management Options is Required:				
Option 1: PRESCRIBED BURNING (Preferred option for managing native grasses.)	October 1 - March 15	**One of the Following Two Frequency Options is Required:** **Option 1:** Treat all acres twice. *1st treatment* – treat ½ of all acres per year in each of 2 years during years 2-4. *2nd treatment* – treat ½ of all acres per year in each of 2 years during years 6-8. **Option 2:** Treat all acres twice. *1st treatment* – treat ⅓ of all acres per year in each of 3 years during years 2-5. *2nd treatment* – treat ⅓ of all acres per year in each of 3 years during years 6-9.	The same acres may not be burned more than once in 3 years. An approved prescribed burning plan is required. Prescribed burning must follow NRCS specifications. Establish firebreaks of appropriate width/location prior to burning. Protect planted shrubs from fire.	$16 per acre

Mid-Contract Management Activities
CRP Practice CP33, Habitat Buffers for Upland Birds – Vegetation Established by Natural Succession

Management Activity	Timing	Frequency	Specifications	Cost-Share
Option 2: LIGHT DISKING	September 1 - March 31 (September 1 - November 1 for optimum quail benefits)	**One of the Following Two Frequency Options is Required:** **Option 1:** Treat all acres twice. *1st treatment* – treat ½ of all acres per year in each of 2 years during years 2-4. *2nd treatment* – treat ½ of all acres per year in each of 2 years during years 6-8. **Option 2:** Treat all acres twice. *1st treatment* – treat ⅓ of all acres per year in each of 3 years during years 2-5. *2nd treatment* – treat ⅓ of all acres per year in each of 3 years during years 6-9.	The same acres may not be disked more than once in 3 years. Disk as many passes as needed to achieve a residual cover of 30-40%. Mowing may be necessary to facilitate disking. Disk no closer than 2 feet from planted shrubs. Disk on contour when possible. **Buffer <60 Ft Average Maximum Width** If disking ½ of all acres in a given year, disk in blocks 30-50 feet wide and alternate with undisked blocks of same width. If disking ⅓ of all acres in a given year, disk in blocks 30-50 feet wide and alternate with undisked blocks twice as wide. **Buffer ≥60 Ft Average Maximum Width** If disking ½ of all acres in a given year, disk in strips 30-50 feet wide and alternate with undisked strips of same width. If disking ⅓ of all acres in a given year, disk in strips 30-50 feet wide and alternate with undisked strips twice as wide.	$11 per acre, regardless of the number of disk passes needed for one treatment $11 per acre for mowing, if necessary

Mid-Contract Management Activities
CRP Practice CP33, Habitat Buffers for Upland Birds – Vegetation Established by Natural Succession

Management Activity	Timing	Frequency	Specifications	Cost-Share
Option 3: LIGHT DISKING WITH LEGUME INTERSEEDING	September 1 - March 31 (September 1 - November 1 for optimum quail benefits)	**One of the Following Two Frequency Options is Required:** **Option 1:** Treat all acres twice. *1st treatment* – treat ½ of all acres per year in each of years 4 and 5. *2nd treatment* – treat ½ of all acres per year in each of years 7 and 8. **Option 2:** Treat all acres twice. *1st treatment* – treat ⅓ of all acres per year in each of years 4, 5, and 6. *2nd treatment* – treat ⅓ of all acres per year in each of years 7, 8, and 9.	The same specifications for disking apply as for the light disking management activity. In addition, interseed March 1 to April 15 with Kobe or Korean lespedeza at a rate of 15-20 pounds per acre drilled or 20-25 pounds per acre broadcast.	$11 per acre, regardless of the number of disk passes needed for one treatment $11 per acre for mowing, if necessary See C/S table for legumes

Arkansas CRP Practice Specifications
CP33 HABITAT BUFFERS FOR UPLAND BIRDS

See Notice CRP-479, Pages 1-7 for National policies regarding:

- Purpose
- Program Policy
- Eligible Land
- Size Requirements
- Eligibility
- Cost Share (C/S) Policy
- Practice Requirements
- Planting Timespan
- Environmental Concerns
- Practice Maintenance
- Management Activity
- Technical Responsibility

In addition to National policy, Arkansas State Policies are listed in this exhibit.

A. SPECIFICATIONS

1. Requirements. The practice shall be performed in a manner consistent with the NRCS Field Border (386) technical standard and specification, but only as it pertains to the wildlife purpose of the practice. Eligible plant species are limited to native warm-season grasses, legumes, forbs and shrubs beneficial for northern bobwhite quail and grassland songbirds as listed in Part B of this specification sheet. Cover establishment will be primarily by planting, with limited allowance of natural herbaceous succession. Eligible field border areas are determined based on the designated crop field boundary delineated on official Farm Service Agency imagery. It is strongly recommended that all sides of a field be buffered, but the actual edges buffered will be determined by the landowner and the planner. **When the landowner does plan to enroll all sides of a field, a minimum 50-foot corridor shall not be enrolled to allow field access. For the life of the contract, buffers shall not be used as turn rows or roads, or for storage of crops or equipment.**

2. Temporary Cover. Temporary cover when required is authorized in accordance with §3.A (C/S policy) of Notice CRP-479. A current soil test is strongly recommended for determining lime and fertilizer requirements of temporary cover. In lieu of a soil test, apply 30 pounds of nitrogen, 60 pounds of phosphorus, 60 pounds of potassium and one ton of lime per acre at the time of planting.

3. Seedbed Preparation and Planting. Native warm-season grasses may be drilled no-till into crop residue or killed sods, drilled into prepared seedbeds, or broadcast on prepared seedbeds and covered by cultipacking or rolling. Prepared seedbeds should be fine-textured, firm, and as weed-free and level as possible. They should be prepared at a minimum by disking and then rolling or cultipacking; plowing before disking may also be necessary. The seedbed should be packed after seeding – if broadcasting, by rolling or cultipacking; if drilling, by rolling or cultipacking if the drill is not equipped with press wheels. The no-till method of seedbed preparation and planting is recommended for highly erodible sites.

4. Competition Control. Follow-up weed control may be necessary during the establishment year if weeds are extremely thick or if large infestations of noxious weeds are present. When weeds reach a height of 18 inches, they should be rotary-mowed to a height just above the establishing native warm-season grasses, but never less than 8-12 inches. Herbicides labeled for use on native warm-season grasses may also be used to control competition. Native forbs/legumes planted in the mix should be considered when planning herbicide use.

5. Lime and Fertilizer. Shrub and native grass plantings do not require fertilizer. Application of phosphorus and potash may still be beneficial to native grass plantings and can be applied and cost-shared based on a current soil test. For soils in excess of a pH 5.5, lime is not required. In the absence of a soil test, lime is required to be applied at the rate of 1 ton per acre. Cost sharing shall be based on the current soil test when available.

6. Herbicides. Follow University of Arkansas Cooperative Extension Service recommendations for application of herbicides to eradicate introduced sods (i.e., fescue or bermudagrass) and to establish native warm-season grass mixes.

7. Natural Succession. An assessment will be conducted at each site by NRCS or the technical service provider to determine if the site qualifies to establish by natural succession.

8. Planting Specifications for Shrubs

    a. Shrub plantings are optional for this practice, not to exceed 10% of the contract acreage.
    b. Shrub seedling care and planting shall be performed in accordance with FOTG practice standard 612 (Tree/Shrub Establishment).
    c. Natural regeneration of shrubs is not permitted.
    d. Shrub planting shall be performed in a block pattern to facilitate management of the herbaceous portions of the field borders. Planting locations should consider connectivity, and enhancement of adjacent woodlands. Weed control may be required for the survival and establishment of seedlings. Mechanical control alone (such as rotary mowing) is not authorized for johnsongrass, bermudagrass, vines, or fescue. If chemical control is utilized, only the minimal treatment needed to control the undesirable vegetation is authorized in order to avoid potential erosion or water quality contamination (e.g. spot treatment, band spraying).
    e. Temporary cover when required is authorized in accordance with §3.A (C/S Policy) of Notice CRP-479.

9. Criteria for Adequate Stand.

    a. A minimum of 50% of the planted shrubs shall be viable after the second growing season.
    b. Native grass plantings shall have a minimum of one plant per four square feet at the end of the second growing season, or sufficient volunteer herbaceous vegetation (native plants) and duff must be present and provide 65% or more ground cover with no erosion occurring.

10. Boundary Markers. Designated (approved) fiberglass or metal post markers will be installed every 500 feet along the cropland edges when the final buffer boundary and contract is approved. These markers will be protected from fire and damage. Signs or stickers may be provided at a later date to be affixed to the markers.

B. ELIGIBLE PLANTS

Eligible Species of Native Grasses, Legumes, and Forbs 1/

Native Grasses	Native Legumes/Forbs
Bluestem, Big Bluestem, Little Gamagrass, Eastern Grama, Sideoats Indiangrass Switchgrass	Legumes: Aechynomene Bundleflower, Illinois Pea, Partridge Wildflowers: Blackeyed Susan Coneflower, Purple Coreopsis, Lanceleaf Coreopsis, Plains Indian Blanket Primrose, Evening Sunflower, Maximillian Sunflower, Tickseed

1/ Other species of grasses, legumes, and forbs may be added to this listing but must be approved by NRCS before being planted.

Eligible Mixes of Native Grasses, Legumes, and Forbs 1/, 2/, 3/

Plant Hardiness Zone 6 – Northern Arkansas							
Drainage Adaptation	Mix	Lbs/Ac of Pure Live Seed (PLS)		Seeding Dates	Major Land Resource Area (MLRA)		
		Drilled	Broadcast		Mountains (MLRA N)	Delta (MLRA O)	Coastal Plain (MLRA P)
					Cultivar/s	Cultivar/s	Cultivar/s
Well	Big Bluestem	2.25	3.0	Jan. 1 to May 31	Roundtree, Kaw	Roundtree, Kaw	N/A
	Little Bluestem	1.25	1.75		Aldous, Cimarron	Aldous, Cimarron	
	Indiangrass	2.25	3.0		Rumsey, Osage, Cheyenne	Rumsey, Osage, Cheyenne	
	Partridge Pea or	1.0	1.0		Comanche, Riley	Comanche	
	Illinois Bundleflower	2.25	3.0		Sabine, Reno	Sabine	
Well	Big Bluestem	2.25	3.25	Jan. 1 to May 31	Roundtree, Kaw	Roundtree, Kaw	N/A
	Indiangrass	2.25	3.25		Rumsey, Osage, Cheyenne	Rumsey, Osage, Cheyenne	
	Switchgrass	1.0	1.0		Blackwell (upland), Kanlow (lowland)	Kanlow (lowland), Blackwell (upland)	
	Partridge Pea or	1.0	1.0		Comanche, Riley	Comanche	
	Illinois Bundleflower	2.25	3.0		Sabine, Reno	Sabine	
Well to Excessive	Little Bluestem	1.25	2.0	Jan. 1 to May 31	Aldous, Cimarron	Aldous, Cimarron	N/A
	Indiangrass	2.25	3.25		Rumsey, Osage (dry sites), Cheyenne	Rumsey, Osage (dry sites), Cheyenne	
	Switchgrass	1.0	1.0		Blackwell (upland and/or dry sites), Kanlow (lowland)	Blackwell (upland and/or dry sites), Kanlow (lowland)	
	Partridge Pea or	1.0	1.0		Comanche, Riley	Comanche	
	Illinois Bundleflower	2.25	3.0		Sabine, Reno	Sabine	
Well to Excessive	Little Bluestem	1.25	1.75	Jan. 1 to May 31	Aldous, Cimarron	N/A	N/A
	Indiangrass	2.25	3.0		Rumsey, Osage (dry sites), Cheyenne		
	Sideoats Grama	2.0	2.75		El Reno		
	Partridge Pea or	1.0	1.0		Comanche, Riley		
	Illinois Bundleflower	2.25	3.0		Sabine, Reno		
Poor	Eastern Gamagrass	5.0	7.0	Jan. 1 to May 31	Pete, Iuka	Pete, Iuka	N/A
	Switchgrass	1.0	1.0		Blackwell, Kanlow (wet sites)	Blackwell, Kanlow (wet sites)	
	Aeschynomene	1.0	1.0		Common seed	Common seed	

Plant Hardiness Zone 7 – Central Arkansas								
Drainage Adaptation	Mix	Lbs/Ac of Pure Live Seed (PLS)		Seeding Dates	Major Land Resource Area (MLRA)			
					Mountains (MLRA N)	Delta (MLRA O)	Coastal Plain (MLRA P)	
		Drilled	Broadcast		Cultivar/s	Cultivar/s	Cultivar/s	
Well	Big Bluestem Little Bluestem Indiangrass Partridge Pea or Illinois Bundleflower	2.25 1.25 2.25 1.0 2.25	3.0 1.75 3.0 1.0 3.0	Jan. 1 to May 31	Roundtree, Kaw, Earl Aldous, Cimarron Rumsey, Osage, Cheyenne, Lometa Comanche, Riley Sabine, Reno	Roundtree, Kaw, Earl Aldous, Cimarron Rumsey, Osage, Cheyenne, Lometa Comanche, Lark Sabine	Kaw, Earl Aldous, Cimarron Osage, Cheyenne, Lometa Comanche Sabine	
Well	Big Bluestem Indiangrass Switchgrass Partridge Pea or Illinois Bundleflower	2.25 2.25 1.0 1.0 2.25	3.25 3.25 1.0 1.0 3.0	Jan. 1 to May 31	Roundtree, Kaw, Earl Rumsey, Osage, Cheyenne, Lometa Blackwell (upland), Kanlow (lowland), Alamo (lowland) Comanche, Riley Sabine, Reno	Roundtree, Kaw Rumsey, Osage, Cheyenne, Lometa Blackwell (upland), Kanlow (lowland), Alamo (lowland) Comanche, Lark Sabine	Kaw, Earl Osage, Cheyenne, Lometa Blackwell (upland), Kanlow (lowland), Alamo (lowland) Comanche Sabine	
Well to Excessive	Little Bluestem Indiangrass Switchgrass Partridge Pea or Illinois Bundleflower	1.25 2.25 1.0 1.0 2.25	2.0 3.25 1.0 1.0 3.0	Jan. 1 to May 31	Aldous, Cimarron Rumsey, Osage (dry sites), Cheyenne, Lometa Blackwell (upland and/or dry sites), Kanlow (lowland), Alamo (lowland) Comanche, Riley Sabine, Reno	Aldous, Cimarron Rumsey, Osage (dry sites), Cheyenne, Lometa Blackwell (upland and/or dry sites), Kanlow (lowland), Alamo (lowland) Comanche, Lark Sabine	Aldous, Cimarron Osage, Cheyenne, Lometa Blackwell (upland and/or dry sites), Kanlow (lowland), Alamo (lowland) Comanche Sabine	
Well to Excessive	Little Bluestem Indiangrass Sideoats Grama Partridge Pea or Illinois Bundleflower	1.25 2.25 2.0 1.0 3.0	1.75 3.0 2.75 1.0 3.0	Jan. 1 to May 31	Aldous, Cimarron Rumsey, Osage (dry sites), Cheyenne, Lometa Haskell, El Reno Comanche, Riley Sabine, Reno	N/A	N/A	
Poor	Eastern Gamagrass Switchgrass Aeschynomene	5.0 1.0 1.0	7.0 1.0 1.0	Jan. 1 to May 31	Pete, Iuka Blackwell, Kanlow (wet sites), Alamo (wet sites) Common seed	Pete, Iuka Blackwell, Kanlow (wet sites), Alamo (wet sites) Common seed	Pete, Iuka Blackwell, Kanlow (wet sites), Alamo (wet sites) Common seed	

Plant Hardiness Zone 8 – Southern Arkansas							
Drainage Adaptation	Mix	Lbs/Ac of Pure Live Seed (PLS)		Seeding Dates	Major Land Resource Area (MLRA)		
		Drilled	Broadcast		Mountains (MLRA N)	Delta (MLRA O)	Coastal Plain (MLRA P)
					Cultivar/s	Cultivar/s	Cultivar/s
Well	Big Bluestem Little Bluestem Indiangrass Partridge Pea or Illinois Bundleflower	2.25 1.25 2.25 1.0 2.25	3.0 1.75 3.0 1.0 3.0	Jan. 1 to May 31	N/A	Earl Cimarron Cheyenne, Lometa Comanche, Lark Sabine	Earl Cimarron Cheyenne, Lometa Comanche Sabine
Well	Big Bluestem Indiangrass Switchgrass Partridge Pea or Illinois Bundleflower	2.25 2.25 1.0 1.0 2.25	3.25 3.25 1.0 1.0 3.0	Jan. 1 to May 31	N/A	Earl Cheyenne, Lometa Blackwell (upland), Kanlow (lowland), Alamo (lowland) Comanche, Lark Sabine	Earl Cheyenne, Lometa Blackwell (upland), Kanlow (lowland), Alamo (lowland) Comanche Sabine
Well to Excessive	Little Bluestem Indiangrass Switchgrass Partridge Pea or Illinois Bundleflower	1.25 2.25 1.0 	2.0 3.25 1.0 1.0 3.0	Jan. 1 to May 31	N/A	Cimarron Cheyenne, Lometa Blackwell (upland and/or dry sites), Kanlow (lowland), Alamo (lowland) Comanche, Lark Sabine	Cimarron Cheyenne, Lometa Blackwell (upland and/or dry sites), Kanlow (lowland), Alamo (lowland) Comanche Sabine
Poor	Eastern Gamagrass Switchgrass Aeschynomene	5.0 1.0 1.0	7.0 1.0 1.0	Jan. 1 to May 31	N/A	Pete, Iuka Blackwell, Kanlow (wet sites), Alamo (wet sites) Common seed	Pete, Iuka Blackwell, Kanlow (wet sites), Alamo (wet sites) Common seed

1/ On sites with well-drained to excessively-drained soils, the following native wildflowers may be added to mixes at a seeding rate of 0.25 lb/ac PLS per species, provided the cost of the entire mix does not exceed $80.00:

Blackeyed Susan	Coreopsis, Lanceleaf	Indian Blanket	Sunflower, Maximillian
Coneflower, Purple	Coreopsis, Plains	Primrose, Evening	Sunflower, Tickseed

2/ Local ecotypes or other cultivars adapted to the site (soil drainage, plant hardiness zone, and major land resource area) may be used in place of the cultivars listed for any species.

3/ Other mixes may be added to this listing but must be approved by NRCS before being planted.

Eligible Shrubs 1/, 2/, 3/, 4/

Species	Allowable Spacing Range (Ft)	Drainage Adaptation	Plant Hardiness Zone	Major Land Resource Area	Planting Dates
Beautberry, American	3-6	Well to poor	All	All	Dec. 1
Dogwood					to
Rough-leaved Dogwood	5-8	Well to poor	All	All	Mar.
Silky Dogwood	3-6	Well to poor	All	N	31
Gray Dogwood	3-6	Well	All	All	
Elderberry, Common	5-8	Well to poor	All	All	
Hawthorn:					
Cockspur Hawthorn	5-8	Well to excessive	All	All	
Washington Hawthorn	5-8	Well to excessive	All	All	
Holly, Deciduous (Possumhaw)	5-8	Well to poor	All	All	
Indigobush	5-8	Well to poor	All	All	
Plum:					
American (Wild) Plum	5-8	Well	All	All	
Chickasaw Plum	5-8	Well	All	All	
Spicebush	5-8	Well to poor	All	All	
Sumac:					
Fragrant Sumac	3-6	Well to excessive	All	All	
Smooth Sumac	3-6	Well to excessive	All	All	

1/ It is recommended to plant a mix containing at least 2 species of shrubs.

2/ To provide essential loafing and winter cover for northern bobwhite, it is recommended to establish areas of planted shrubs to serve as "covey headquarters" sites. These sites should be a minimum of 20 feet wide and cover 1,500 square feet. They should comprise at least 5% of the practice area and be no more than 0.25 mile linear distance from one another (the 0.25 mile distance between "covey headquarters" sites applies to buffers 30 feet wide; for wider buffers, this distance should be reduced accordingly). Shrubs should be planted at either 5-ft x 5-ft or 6-ft x 6-ft spacings. Preferred shrub species for this purpose are dogwoods, plums, or sumacs.

3/ Number of shrubs per acre at allowable spacings:
3 ft x 3 ft = 4,840
4 ft x 4 ft = 2,723
5 ft x 5 ft = 1,742
6 ft x 6 ft = 1,210
7 ft x 7 ft = 889
8 ft x 8 ft = 680

4/ Other species of shrubs may be added to this listing but must be approved by NRCS before being planted.

C. TEMPORARY COVER

Eligible Temporary Cover Species for Summer or Winter Cover 1/

Summer Cover						
Species	Lbs per Acre		Drainage Adaptation	Plant Hardiness Zone	Major Land Resource Area	Planting Dates
	Drilled	Broadcast				
Millet, Browntop	15-20	20-30	Well to excessive	All	All	Apr. 1 to Aug. 15
Millet, Japanese	10-15	20-30	Well to poor	All	All	Apr. 1 to Aug. 15
Millet, Proso	20-30	30-40	Well to excessive	All	All	Apr. 1 to Aug. 15
Oats	90-120	120-150	Well	All	All	Feb. 1 to Apr. 1

Winter Cover						
Species	Lbs per Acre		Drainage Adaptation	Plant Hardiness Zone	Major Land Resource Area	Planting Dates
	Drilled	Broadcast				
Oats	90-120	120-150	Well	All	All	Sep. 1 to Dec. 1
Wheat	90-120	120-150	Well	All	All	Sep. 1 to Dec. 1
Triticale	90-120	120-150	Well to poor	All	All	Sep. 1 to Dec. 1
Barley	90-120	120-150	Well	All	All	Sep. 1 to Dec. 1

1/ Other temporary cover species are eligible but must be approved by NRCS before being planted.

CRP Practice CP33, Habitat Buffers for Upland Birds

ESTABLISHING NATIVE WARM-SEASON GRASS MIXTURES

Warm-season grasses are a group of grasses which reach their maximum productivity during summer. Their growth begins when soil temperature reaches approximately 55° F, and their growth rate increases with temperature to a maximum of about 90° F. In Arkansas, native warm-season grasses (NWSGs) have been largely replaced by introduced grasses.

Wildlife Benefits

Research has shown that a greater diversity of wildlife species utilize NWSGs than introduced grasses. NWSGs are bunchgrasses; they grow upright with bare ground in between. This provides overhead cover for protection, quality nesting habitat, and open travel corridors, and attracts insects.

Recommended NWSG Species and Cultivars for Arkansas*

Big Bluestem – 'Roundtree' (IA), 'Kaw' (KS), 'Earl' (TX) Little Bluestem – 'Aldous' (KS), 'Cimarron' (OK-KS) Indiangrass – 'Rumsey' (IL), 'Osage' (KS), 'Cheyenne' (OK), 'Lometa' (TX) Sideoats Grama – 'Haskell' (TX), 'El Reno' (KS)	Switchgrass – 'Cave-in-Rock' (IL), 'Shawnee' (IL), 'Blackwell' (n. OK), 'Kanlow' (s. OK), 'Alamo' (s. TX) Eastern Gamagrass – 'Pete' (KS), 'Iuka' (OK)

* Local ecotypes of the listed species are also recommended.

Seed Characteristics

Big bluestem, little bluestem, indiangrass, and sideoats grama seeds are hairy and/or awned, making the seed fluffy and difficult to handle. Debearded (awns and hairs removed) seed is available but is more expensive. Most fluffy seed available contains a high percentage of chaff (stems and leaves). Eastern gamagrass and switchgrass seeds are smooth. Eastern gamagrass is large, comparable to corn kernels, whereas switchgrass is small, much like clover.

Pure Live Seed (PLS)

Native seed does not have dependable germination and often cannot be cleaned to pure seed easily. Therefore, native grass and forb seed is specified and sold by the pounds of pure live seed to account for low germination and chaffy seed. Drills must be calibrated so they sow enough bulk seed to deliver the specified amount of pure live seed (PLS). The amount of bulk seed necessary to yield a given weight of PLS is calculated as follows:

$$\text{Pounds of Bulk Seed} = \frac{\text{Pounds of Pure Live Seed}}{\text{Purity (decimal)} \times \text{Germination (decimal)}}$$

Example: To sow 10 lbs PLS with 50% purity and 50% germination, sow $\frac{10}{0.5 \times 0.5}$ = 40 lbs bulk seed.

Planting Rate

Planting rates of 4-6 lbs/acre PLS of NWSGs for drilled seed, and about one-third more for broadcast seed, are recommended for establishing stands for conservation purposes (wildlife, erosion control). These rates are considerably less than those used to establish livestock forage. A minimum of 3 or more NWSG species plus legumes and/or forbs is recommended for wildlife plantings.

Planting Depth

Seed depth is critical. *Planting too deep is a common cause of stand failure.* Optimum depth for most NWSGs is ¼ inch deep, and seeds planted deeper than ½ inch are not likely to germinate. The exception is eastern gamagrass, which should be planted 1 inch deep. When drilling, up to one-third of the seed may be left on top of the ground as long as the press wheels are ensuring good seed-to-soil contact.

Planting Time

Northern NWSG cultivars (all but Texas) generally require a cold, moist stratification before they will germinate, whereas southern cultivars (Texas) do not. Also, most NWSGs will not germinate once soil temperature falls below 55° F.

NWSGs except eastern gamagrass: Sow unstratified seed of northern cultivars before the average date of the last spring frost, which varies according to plant hardiness zone. Southern cultivars may be sown later. None of the cultivars should be sown earlier than the date at which soil temperature falls below 55° F.

	Plant Hardiness Zone 6	Plant Hardiness Zone 7	Plant Hardiness Zone 8
Northern Cultivars	Dec. 1 – Apr. 20	Dec. 15 – Apr. 10	Jan. 1 – Mar. 20
Southern Cultivars	N/A	Jan. 1 – May 1	Jan. 1 – May 1

Eastern gamagrass: Sow unstratified seed from November 1 until the ground hardens in northern Arkansas, and December 1 until hard ground in southern Arkansas. Sow stratified seed at normal corn planting time, generally April 15 to May 15.

Soil Amendments

Soils should be tested and lime applied, if necessary, to bring the pH up to at least 5.5. A pH of 5.5-6.5 is preferred for most NWSGs. It may be beneficial to apply phosphorous and potassium if the soil test indicates they are below minimum levels. *Nitrogen should not be applied because it stimulates weed competition.*

Seeding Method

Seeding may be performed by drilling or broadcasting.

Drilling:
Fluffy seed that has not been debearded or that contains high percentages of chaff must be planted with a specialized warm-season no-till grass drill. These drills have grass seed boxes with dividers and agitators, picker wheels, and oversized drop tubes. The Arkansas Game and Fish Commission has several specialized NWSG no-till drills distributed throughout Arkansas available for use by landowners.

Debearded seed with the chaff removed can be planted with a conventional drill. A possible exception to this is little bluestem, which can rarely be debearded completely without damaging the seed.

Smooth seeds such as switchgrass can be planted using a conventional drill with the legume box set to place the seed ¼ inch deep. Fluffy seeds that have been debearded can also be planted with a conventional drill; however, debearded seed is expensive. Eastern gamagrass seed can be planted with a corn planter.

When drilling a mix of grasses and forbs where the seed has been debearded, the grass and forb seed can be mixed together and all of it drilled through the same box. When the seed is not debearded and the chaff has not be removed, it is recommended that the small smooth seed in the mix be run through the legume box and the larger smooth forb seed be run in the cool-season box, or else some areas will get no grass seed and other areas no forb seed.

Broadcasting:
Broadcasting with a spreader is an optional approach to drilling. Carriers may be necessary to allow spreading of fluffy seeds. Fertilizer should not be used as a carrier.

Seedbed Preparation and Planting

Seed may be drilled no-till into crop residue or killed sods; drilled into clean-tilled seedbeds; or broadcast on clean-tilled seedbeds and covered by rolling or cultipacking. Clean-tilled seedbeds should be fine-textured, firm, and as level as and weed-free as possible. No-till drilling reduces soil disturbance, thereby reducing weed competition and erosion, and is the preferred method for highly erodible soils.

Drilled no-till into crop residue: Seed may be drilled no-till into relatively weed-free crop stubble that has been left standing from the previous year. However, where hipped rows and/or crop residue will likely impede seeding with the drill, it is recommended to follow the clean-till method below.

Drilled no-till into killed sod: Seed may be drilled no-till into introduced cool- or warm-season sods killed with herbicide prior to planting. The most effective time to conduct this herbicide application is when the grass is actively growing – the previous summer for warm-season grasses (i.e., bermudagrass) or the previous fall for cool-season grasses (i.e., fescue). As much vegetation and thatch as possible should be removed before herbicide application (to allow herbicide to adequately contact the actively growing target grass) and before drilling seed (to provide a clean seedbed that will not prevent the drill from making good ground contact).

Clean-till:
For fields cropped the previous year and relatively weed-free, the seedbed should be prepared by shallow disking followed by rolling or cultipacking. If drilling seed, unless a drill with press wheels is used, rolling or cultipacking is necessary after drilling. If broadcasting seed, the seedbed should be prepared by shallow disking followed and then rolled or cultipacked. After the seed is broadcast, rolling or cultipacking is again necessary to cover the seed.

For fallow fields, or for fields cropped the previous year but with weed problems, the seedbed should be prepared by deep plowing in late fall to put weed seeds too deep to sprout, then disked shallow in spring to avoid bringing up weed seeds and to kill sprouted weeds, and then rolled or cultipacked. If drilling seed, unless a drill with press wheels is used, rolling or cultipacking is necessary after drilling. If broadcasting seed, the seedbed should be prepared by shallow disking and then rolled or cultipacked. After the seed is broadcast, rolling or cultipacking is again necessary to cover the seed.

Establishment Phase and Control of Competition

NWSGs often take more than one year to become established. Some seeds will not germinate the first year.

Warm-season grasses thrive in direct sunlight. Control of competition is critical during the establishment phase of NWSGs. Annual grasses are the main concern, but broadleaf weeds may also be a problem. During the first summer of establishment, as weeds reach a height of 18 inches, stands should be rotary-mowed to a height just above the establishing NWSGs, but never less than 8-10 inches.

Herbicides labeled for use on NWSG's may also be used to control competition. Native forbs/legumes planted in the mix should be considered when planning herbicide use.

Herbicide Application

The University of Arkansas Cooperative Extension Service (UACES) should be contacted for information on herbicides to use for establishing NWSG mixes.

Management

To meet wildlife objectives, prescribed burning is the preferred management tool. It is best to burn one-third of the area every year on a 3-year rotation so there are two other areas remaining with different levels of residue. Strip disking is another option and is also best applied by disking one-third of the area every year on a 3-year rotation. Neither prescribed burning nor strip disking should be done until NWSGs are well established (year 4).

REQUEST FOR APPROVING CCRP OFFERS FOR PRACTICE CP33

_____County FSA Committee

Producer	Farm Number	Tract Number	CRP Contract Length (10 yrs to 15 yrs)	Acres	Total Acres

Attached is a copy of the CRP-1 for each participant to be approved.

_____ _____

County Executive Director/COC Date